

USSN: 10/677,551

Ref. No. 27712 (formerly 01337.US1)

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)

2. (Previously Presented) The method of claim 20, wherein each R⁴ is independently

- (a) H,
- (b) halo,
- (e) SR¹²,
- (f) S(O)_mR¹³,
- (g) NR⁹R¹⁰,
- (h) NR⁹S(O)_mR¹³,
- (i) NR⁹C(=O)OR¹³,
- (j) phenyl optionally substituted by one or more R⁸,
- (k) heteroaryl optionally substituted by one or more R⁸,
- (l) cyano,
- (m) nitro,
- (n) CONR⁹R¹⁰,
- (o) CO₂R¹²,
- (p) C(=O)R¹³,
- (q) C(=NOR¹²)R¹³,
- (s) NR⁹C(=O)-R¹²,
- (t) C₁₋₇alkyl, C₁₋₇ alkenyl or C₁₋₇ alkynyl each of which is optionally substituted by one or more R¹¹, or
- (u) het¹ optionally substituted by one or more R⁸.

3. (Previously Presented) The method of claim 2, wherein each R⁴ is independently selected from NO₂, H, Br, F, CF₃, CN, NH₂, -C(O)-OCH₃, -S-CH₃, -S(O)₂-CH₃, -N(OCH₃)-CH₃, -NH-C(O)-O-tbutyl, -NH-C(O)-CH₃, heteroaryl optionally

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substituted by one or more R⁸, het¹ optionally substituted by one or more R⁸, -S(O)₂-CH₃, or phenyl optionally substituted by one or more of NO₂, Cl, F, -OCH₃, and -OCF₃.

4. (Previously Presented) The method of claim 20, wherein each R³ is H.

5. (Previously Presented) The method of claim 20, wherein R¹ is -C(O)R⁶.

6. (Previously Presented) The method of claim 20, wherein R² is -C(O)R⁷.

7. (Previously Presented) The method of claim 6, wherein R¹ is -C(O)R⁶.

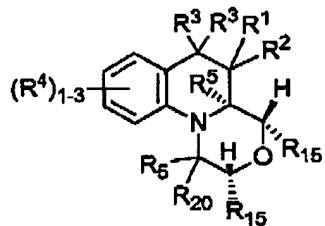
8. (Previously Presented) The method of claim 7, wherein R⁶ and R⁷ form -N(R¹⁷)-C(O)-N(R¹⁷)- or -N(R¹⁷)-C(S)-N(R¹⁷)-.

9-10. (Canceled)

11. (Previously Presented) The method of claim 20, wherein each R¹⁵ is independently H, or C₁₋₇ alkyl optionally substituted by one or more R¹¹ substituents.

12. (Previously Presented) The method of claim 11, wherein X is -C(H)(C₁₋₄ alkyl)-O-C(H)(C₁₋₄ alkyl)-.

13. (Previously Presented) The method of claim 20, wherein the compound has the formula of



and each R₁₅ is independently

(b) OR¹¹,

(d) C₁₋₇ alkyl which is optionally substituted by one or more R¹¹

substituents,

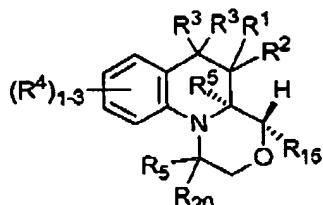
(e) C₃₋₈ cycloalkyl, C₃₋₈ cycloalkenyl or C₃₋₈ cycloalkynyl each of which is optionally substituted by one or more R¹¹ substituents.

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- (f) aryl optionally substituted by one or more R⁸, or
- (g) heteroaryl optionally substituted by one or more R⁸.

14. (Previously Presented) The method of claim 20, wherein the compound has the formula of



and each R₁₅ is independently

- (b) OR¹¹,
- (d) C₁₋₇ alkyl which is optionally substituted by one or more R¹¹

substituents,

- (e) C₃₋₈ cycloalkyl, C₃₋₈ cycloalkenyl or C₃₋₈ cycloalkynyl each of which is optionally substituted by one or more R¹¹ substituents,
- (f) aryl optionally substituted by one or more R⁸, or
- (g) heteroaryl optionally substituted by one or more R⁸.

15. (Canceled)

16. (Previously Presented) The method of claim 20, wherein each R⁵ is independently H or C₁₋₇ alkyl.

17. (Previously Presented) The method of claim 20 wherein the compound is selected from the group consisting of:

(2R,4S,4aS)-2,4-dimethyl-8-nitro-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;
 1,2,4,4a-Tetrahydro- 2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5' (2'H)-pyrimidine]-2',4',6' (1' H,3' H)-trione;
 8-Bromo-1,2,4,4a-tetrahydro-2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5' (2' H)-pyrimidine]-2',4',6' (1' H,3' H)-trione;

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8-Fluoro-1,2,4,4a-tetrahydro-2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5' (2' H)-pyrimidine]-2',4',6' (1' H,3' H)-trione;

1,2,4,4a-Tetrahydro-2,4-dimethyl-8-trifluoromethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5' (2' H)-pyrimidine]-2',4',6' (1' H,3' H)-trione;

1,1',2, 3'4,4',4a, 6'-Octahydro-2,4',6'-trioxospiro[[1,4]oxazino[4,3-a] quinoline-5(6H), 5' (2' H)-pyrimidine]-8-carbonitrile;

1,2,4,4a-Tetrahydro-2,4-dimethyl-8-carboxamidespiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5' (2' H)-pyrimidine]-2',4',6' (1' H,3' H)-trione;

1,2,4,4a-Tetrahydro-8-nitrospiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5' (2' H)-pyrimidine]-2',4',6' (1' H,3' H)-trione;

1,2,4,4a-Tetrahydro-2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5' (2' H)-pyrimidine]-2',4',6' (1' H,3' H)-trione;

1,2,4,4a-Tetrahydro-1,4a-dimethyl-8-nitrospiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5' (2' H)-pyrimidine]-2',4',6' (1' H,3' H)-trione;

8-Bromo-1,2,4,4a-tetrahydro-cis-2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5' (2' H)-pyrimidine]-4'-thioxo-2',6' (1' H,3' H)-dione;

8-Bromo-1,2,4,4a-tetrahydro-cis-2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5' (2' H)-pyrimidine]-2',4',6' (1' methyl, 3' methyl)-trione;

N-[1,1',2,3',4,4',4a,6'-Octahydro-2,4-dimethyl-2',4',6'-trioxospiro[[1,4]oxazino[4,3-a]quinolone-5(6H), 5'(2' H)-pyrimidin]-8-yl]acetamide;

tert-butyl 1,1',2, 3',4,4',4a,6'-Octahydro-2,4-dimethyl-2',4',6'-trioxospiro[[1,4]oxazino[4,3-a]quinolone-5(6H), 5'(2' H)-pyrimidin]-8-ylcarbamate;

8-Amino-1,2,4,4a-tetrahydro-2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinolone-5(6H), 5'(2' H)-pyrimidine]-2',4',6' (1' H,3' H)-trione monohydrochloride;

9-Bromo-1,2,4,4a-tetrahydro-2,4-dimethyl-8-nitrospiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5'(2' H)-pyrimidine]-2',4',6' (1' H,3' H)-trione;

8-Acetyl-1,2,4,4a-tetrahydro-2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5'(2' H)-pyrimidine]-2',4',6' (1' H,3' H)-trione;

8-Ethanone-O-methyloxime-1-1,2,4,4a-tetrahydro-2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H), 5'(2' H)-pyrimidine]-2',4',6' (1' H,3' H)-trione;

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1,2,4,4a-Tetrahydro-2,4-dimethyl-8-(methylsulfonyl)spiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;

1,2,4,4a-Tetrahydro-2,4-dimethyl-8-(methylsulfinyl)spiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;

1,2,4,4a-Tetrahydro-2,4-dimethyl-8-(methylthio)spiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;

1,2,4,4a-Tetrahydro-2,4-dimethyl-9-nitrospiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;

1,2,4,4a-Tetrahydro-2,4-dimethyl-8-nitrospiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'methyl,3'methyl)-trione;

1,2,4,4a-Tetrahydro-2,4-dimethyl-8-nitrospiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H, 3'methyl)-trione;

1,2,4,4a-Tetrahydro-4-methyl-8-nitrospiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;

1,2,4,4a-Tetrahydro-2-methyl-8-nitrospiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3's)-trione;

1,1',2'3'4'4'a-Hexahydro-2',4'-dimethyl-1,3-dioxospiro[2H-indene-2,5'(6'H)-[1,4]oxazino[4,3-a]quinoline]-8'-carbonitrile;

1,2,4,4a-Tetrahydro-2,4-dimethyl-[1,4]oxazino[4,3-a]quinoline-5,5,8(6H)-tricarbonitrile;

8-Bromo-1,2,4,4a-tetrahydro-2,4-dimethyl-[1,4]oxazino[4,3-a]quinoline-5,5(6H)-dicarbonitrile;

9-(4-Chlorophenyl)-1,2,4,4a-tetrahydro-2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;

1,2,4,4a-Tetrahydro-2,4-dimethyl-9-[4-(trifluoromethoxy)phenyl]spiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;

1,2,4,4a-Tetrahydro-9-(methoxyphenyl)-2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;

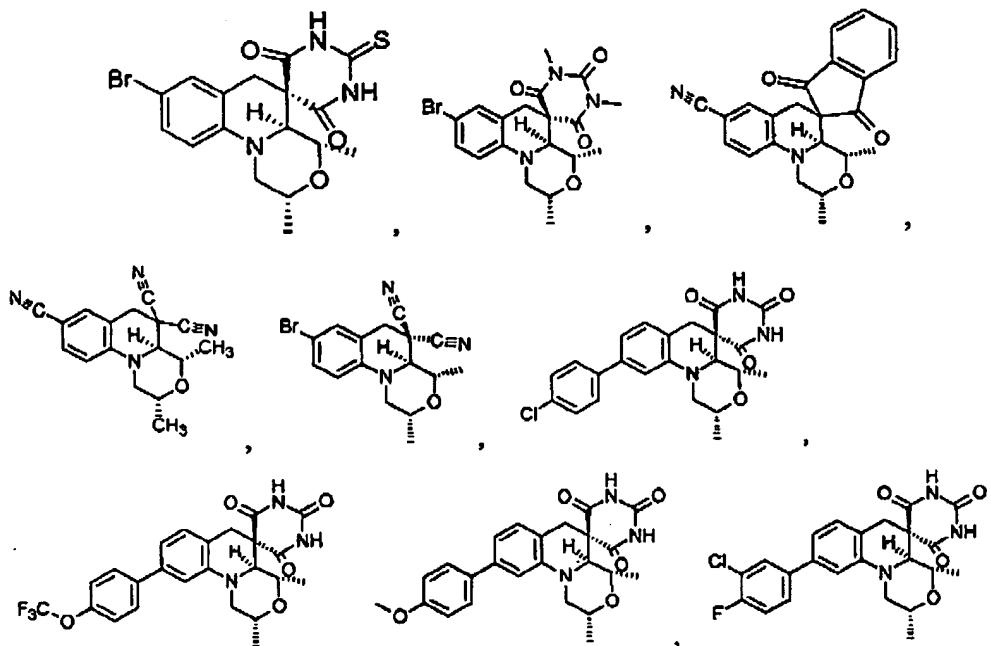
9-(3-Chloro-4-fluorophenyl)-1,2,4,4a-tetrahydro-2,4-dimethylspiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;

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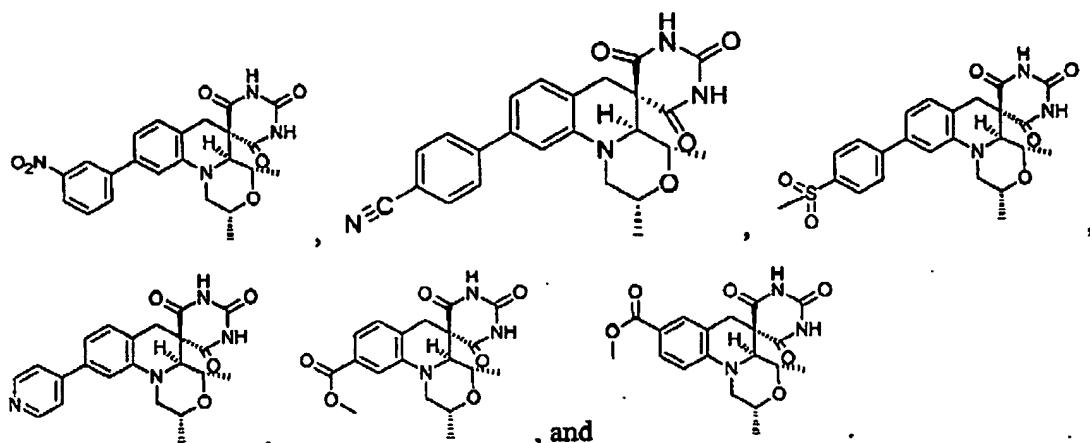
1,2,4,4a-Tetrahydro-2,4-dimethyl-9-(3-nitrophenyl)spiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;
 1,1',2,3',4,4',4a,6'-Octahydro-2,4-dimethyl-2',4',6'-trioxospiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5(2'H)-pyrimidin]-9-yl]benzonitrile;
 1,2,4,4a-Tetrahydro-2,4-dimethyl-9-[4-(methylsulfonyl)phenyl]spiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;
 1,2,4,4a-Tetrahydro-2,4-dimethyl-9-(4-pyridinyl)spiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;
 Methyl-1,1'-2,3',4,4a,6'-Octahydro-2,4-dimethyl-2',4',6'-trioxospiro[[1,4]oxazino [4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-9-carboxylate; and
 Methyl-1,1'-2,3',4,4a,6'-Octahydro-2,4-dimethyl-2',4',6'-trioxospiro[[1,4]oxazino [4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-8-carboxylate.

18. (Previously Presented) The method of claim 20 wherein the compound is selected from the group consisting of:



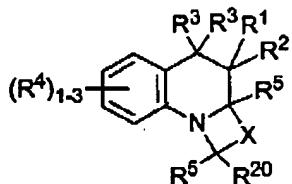
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19. (Canceled)

20. (Currently Amended) A method for the treatment of bacterial infections in mammals comprising administration of an effective amount of a compound of formula I, including enantiomeric, diastereomeric, or tautomeric isomers thereof, or any pharmaceutically acceptable salt thereof to said mammal;

**I**

wherein,

R¹ is

- (a) R¹²
- (b) C(=O)R⁶, or
- (c) CN;

R² is

- (a) R¹²
- (b) C(=O)R⁷,
- (c) CN,
- (d) -CH₂-R⁷,

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- (e) $-\text{NR}^{17}\text{R}^7$,
- (f) $-\text{CH}_2\text{COR}^7$, or
- (g) $-\text{CH}_2\text{CH}_2\text{COR}^7$;

Each R^3 is independently

- (a) H,
- (b) R^{12} ,
- (c) C_{1-7} alkyl, C_{1-7} alkenyl or C_{1-7} alkynyl each of which is optionally substituted by one or more R^{11} ,
- (d) C_{3-8} cycloalkyl, C_{3-8} cycloalkenyl or C_{3-8} cycloalkynyl each of which is optionally substituted by one or more R^{11} ,
- (e) aryl optionally substituted by one or more R^8 ,
- (f) heteroaryl optionally substituted by one or more R^8 ,
- (g) halo, or
- (h) both R_3 taken together are oxo;

Each R^4 is independently

- (a) H,
- (b) halo,
- (c) OR^{12} ,
- (d) $\text{OC}(=\text{O})\text{NR}^9\text{R}^{10}$,
- (e) SR^{12} ,
- (f) $\text{S(O)}_m\text{R}^{13}$,
- (g) NR^9R^{10} ,
- (h) $\text{NR}^9\text{S(O)}_m\text{R}^{13}$,
- (i) $\text{NR}^9\text{C}(=\text{O})\text{OR}^{13}$,
- (j) phenyl optionally substituted by one or more R^8 ,
- (k) heteroaryl optionally substituted by one or more R^8 ,
- (l) cyano,
- (m) nitro,
- (n) $\text{CONR}^9\text{R}^{10}$,
- (o) CO_2R^{12} ,
- (p) $\text{C}(=\text{O})\text{R}^{13}$.

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(q) $\text{C}(\text{=NOR}^{12})\text{R}^{13}$,(r) $\text{S}(\text{O})_m\text{NR}^9\text{R}^{10}$,(s) $\text{NR}^9\text{C}(\text{=O})-\text{R}^{12}$,(t) C_{1-7} alkyl, C_{1-7} alkenyl or C_{1-7} alkynyl each of which is optionally substituted by one or more R^{11} ,(u) C_{3-8} cycloalkyl, C_{3-8} cycloalkenyl or C_{3-8} cycloalkynyl each of which is optionally substituted by one or more R^{11} ,(v) N_3 ,(w) het¹ optionally substituted by one or more R^8 , or(x) $\text{C}(\text{O})\text{O}-\text{C}_{1-4}\text{alkyl}-\text{R}^{12}$;Each R^5 is independently,

(a) H,

(b) C_{1-7} alkyl, C_{1-7} alkenyl or C_{1-7} alkynyl each of which is optionally substituted by one or more R^{11} ,(c) C_{3-8} cycloalkyl, C_{3-8} cycloalkenyl or C_{3-8} cycloalkynyl each of which is optionally substituted by one or more R^{11} ,(d) aryl optionally substituted by one or more R^8 , or(e) heteroaryl optionally substituted by one or more R^8 ; R^6 and R^7 are independently;(a) OR^{12} ,(b) NR^9R^{10} ,(c) R^{13} , or(e) R^6 and R^7 together with the 2 carbons to which they are attached form cyclohexane-1,3-dione optionally substituted by one or more R^{13} , cyclopentane-1,3-dione optionally substituted by one or more R^{13} , R^6 and R^7 together form - $\text{N}(\text{R}^{17})-\text{S}(\text{O})_m-$ $\text{N}(\text{R}^{17})-$, - $\text{N}(\text{R}^{17})-\text{C}(\text{O})-\text{N}(\text{R}^{17})-$, - $\text{N}(\text{R}^{17})-\text{C}(\text{S})-\text{N}(\text{R}^{17})-$, - $\text{N}(\text{R}^{17})-\text{N}(\text{R}^{17})-$, - $\text{N}(\text{R}^{17})-\text{C}(\text{O})-$, or - $\text{N}(\text{R}^{17})-$, or R^6 and R^7 together form a phenyl ring; R^8 is

(a) H,

(b) halo,

(c) OR^{12} ,

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(d) OCF_3 ,(e) SR^{12} ,(f) $\text{S(O)}_m\text{R}^{13}$,(g) NR^9R^{10} ,(h) $\text{NR}^9\text{S(O)}_m\text{R}^{13}$,(i) $\text{NR}^9\text{C}(=\text{O})\text{OR}^{13}$,(j) phenyl optionally substituted by halo, cyano, C_{1-7} alkyl, or C_{1-7} alkoxy, in the alkyl portion of the C_{1-7} alkyl and C_{1-7} alkoxy is optionally substituted by one or more R^{11} ;(k) heteroaryl optionally substituted by halo, C_{1-7} alkyl, or C_{1-7} alkoxy,

(l) cyano,

(m) nitro,

(n) $\text{CONR}^9\text{R}^{10}$,(o) CO_2R^{12} ,(p) $\text{C}(=\text{O})\text{R}^{13}$,(q) $\text{C}(=\text{NOR}^{12})\text{R}^{13}$,(r) $\text{S(O)}_m\text{NR}^9\text{R}^{10}$,(s) $\text{NR}^9\text{C}(=\text{O})-\text{R}^{12}$,(t) C_{1-7} alkyl, C_{1-7} alkenyl or C_{1-7} alkynyl each of which is optionally substituted by one or more R^{11} ,(u) C_{3-8} cycloalkyl, C_{3-8} cycloalkenyl or C_{3-8} cycloalkynyl each of which is optionally substituted by one or more R^{11} ,(v) $-\text{C}(\text{O})\text{H}$, or(w) -het¹; R^9 and R^{10} are independently

(a) H,

(b) OR^{12} ,(c) aryl optionally substituted by one or more R^{14} ,(d) heteroaryl optionally substituted by one or more R^{14} ,(e) C_{1-7} alkyl which is optionally substituted by one or more R^{11} ,

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(f) C₃₋₈cycloalkyl which is optionally substituted by one or more R¹¹,(g) (C=O)R¹³, or(h) R⁹ and R¹⁰ together with the nitrogen to which they are attached form morpholine, pyrrolidine, piperidine, thiazine, piperazine, each of the morpholine, pyrrolidine, piperidine, thiazine, piperazine being optionally substituted with R¹¹;R¹¹ is

(a) oxo,

(b) phenyl optionally substituted by one or more R¹⁴,(c) OR¹²,(d) SR¹²,(e) NR¹²R¹²,

(f) halo,

(g) CO₂R¹²,(h) CONR¹²R¹²,(i) C₁₋₇alkyl, C₁₋₇alkenyl or C₁₋₇alkynyl each of which is optionally substituted by one or more oxo, halo, OR¹², SR¹², C₁₋₇alkyl, or NR¹²R¹² substituents, or(j) C₃₋₈cycloalkyl, C₃₋₈cycloalkenyl or C₃₋₈cycloalkynyl each of which is optionally substituted by one or more oxo, halo, OR¹², SR¹², C₁₋₇alkyl, or NR¹²R¹² substituents;R¹² is

(a) H,

(b) C₁₋₇alkyl, C₁₋₇alkenyl or C₁₋₇alkynyl each of which is optionally substituted by oxo, halo, C₁₋₇alkyl, or C₁₋₇alkoxy substituents,(c) C₃₋₈cycloalkyl, C₃₋₈cycloalkenyl or C₃₋₈cycloalkynyl each of which is optionally substituted by one or more oxo, halo, C₁₋₇alkyl, or C₁₋₇alkoxy substituents,(d) aryl optionally substituted by one or more halo, C₁₋₇alkyl, or C₁₋₇alkoxy substituents, or(e) heteroaryl optionally substituted by one or more halo, C₁₋₇alkyl, or C₁₋₇alkoxy substituents;R¹³ is

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- (a) C₁₋₇ alkyl which is optionally substituted by one or more by oxo, halo, carboxyl, C₁₋₇alkyl, or C₁₋₇alkoxy substituents,
- (b) C₃₋₈ cycloalkyl, C₃₋₈ cycloalkenyl or C₃₋₈ cycloalkynyl each of which is optionally substituted by one or more by oxo, halo, C₁₋₇alkyl, or C₁₋₇alkoxy substituents,
- (c) aryl optionally substituted by one or more halo, C₁₋₇alkyl, or C₁₋₇alkoxy substituents;
- (d) heteroaryl optionally substituted by one or more halo, C₁₋₇alkyl, or C₁₋₇alkoxy substituents, or
- (e) -C(O)OH

R¹⁴ is

- (a) H,
- (b) halo,
- (c) C₁₋₇alkyl,
- (d) OR¹²,
- (e) OCF₃,
- (f) SR¹²,
- (g) S(O)_mR¹³,
- (h) NR¹²R¹²,
- (i) NR¹²S(O)_mR¹³,
- (j) NR¹²C(=O)OR¹³,
- (k) phenyl optionally substituted by halo, C₁₋₇alkyl, or C₁₋₇alkoxy,
- (l) heteroaryl optionally substituted by halo, C₁₋₇alkyl, or C₁₋₇alkoxy,
- (m) cyano,
- (n) nitro,
- (o) CONR¹²R¹²,
- (p) CO₂R¹²,
- (q) C(=O)R¹³,
- (r) C(=NOR¹²)R¹³,
- (s) S(O)_mNR¹²R¹²,
- (t) NR⁹C(=O)-R¹²,

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(u) C_{1-7} alkyl, C_{1-7} alkenyl or C_{1-7} alkynyl each of which is optionally substituted by oxo, halo, OR^{12} , SR^{12} , C_{1-7} alkyl, or $NR^{12}R^{12}$ substituents, or

(v) C_{3-8} cycloalkyl, C_{3-8} cycloalkenyl or C_{3-8} cycloalkynyl each of which is optionally substituted by oxo, halo, OR^{12} , SR^{12} , C_{1-7} alkyl, or $NR^{12}R^{12}$ substituents;

X is $-C(R^{15})_2-O-C(R^{15})_2-$;

Each R^{15} is independently

(a) H,

(b) OR^{11} ,

(d) C_{1-7} alkyl which is optionally substituted by one or more R^{11}

substituents,

(e) C_{3-8} cycloalkyl, C_{3-8} cycloalkenyl or C_{3-8} cycloalkynyl each of which is optionally substituted by one or more R^{11} substituents,

(f) aryl optionally substituted by one or more R^8 , or

(g) heteroaryl optionally substituted by one or more R^8 ;

R^{16} is

(a) H

(b) OR^{12} ;

(c) $(C=O)R^{13}$;

(d) $(C=O)OR^{13}$;

(e) $(C=O)NR^9R^{10}$;

(f) $S(O)mR^{13}$;

(g) $S(O)_mNR^9R^{10}$;

(h) C_{1-7} alkyl which is optionally substituted by one or more R^{11} substituents,

(i) C_{3-8} cycloalkyl, C_{3-8} cycloalkenyl or C_{3-8} cycloalkynyl each of which is optionally substituted by one or more R^{11} substituents;

(j) aryl optionally substituted by one or more R^8 , or

(k) heteroaryl optionally substituted by one or more R^8 ;

R^{17} is

(a) H,

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- (b) -OH, or
- (c) C₁₋₄alkyl;

R¹⁹ is

- (a) H,
- (b) OR¹¹,
- (c) Oxe,
- (d) C₁₋₇alkyl which is optionally substituted by one or more R¹¹ substituents;
- (e) C₃₋₈cycloalkyl, C₃₋₈cycloalkenyl or C₃₋₈cycloalkynyl each of which is optionally substituted by one or more R¹¹ substituents;
- (f) aryl optionally substituted by one or more R⁸, or
- (g) heteroaryl optionally substituted by one or more R⁸;

R²⁰ is

- (a) H,
- (b) C₁₋₇alkyl, C₁₋₇alkenyl or C₁₋₇alkynyl each of which is optionally substituted by one or more R¹¹,
- (c) C₃₋₈cycloalkyl, C₃₋₈cycloalkenyl or C₃₋₈cycloalkynyl each of which is optionally substituted by one or more R¹¹,

- (d) aryl optionally substituted by one or more R⁸, or
- (e) heteroaryl optionally substituted by one or more R⁸, or
- (f) R²⁰ and R¹⁹, taken together, form CH₂;

wherein, "aryl" denotes a phenyl radical or an ortho-fused bicyclic carbocyclic radical having about nine to ten ring atoms in which at least one ring is aromatic;

wherein, "heteroaryl" encompasses a radical attached via a ring carbon or ring nitrogen of a monocyclic aromatic ring containing five or six ring atoms consisting of carbon and 1, 2, 3, or 4 heteroatoms, selected from oxygen (-O-), sulfur (-S-), sulfinyl (S=O) and sulfonyl (S(=O)₂), or nitrogen N(Z) wherein Z is absent or is H, O, C₁₋₄alkyl, phenyl or benzyl, or a radical of an ortho-fused bicyclic heterocycle of about eight to ten ring atoms derived therefrom;

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het¹ is a C- or N- linked five- (5), six- (6), seven- (7), or eight- (8) membered mono- or bicyclic ring, each mono- or bicyclic ring being fully saturated or partially unsaturated, and having 1-4 heteroatoms selected from the group consisting of oxygen, sulfur, and nitrogen; het¹ being optionally substituted by 1-2 substituents selected from C₁-C₄alkyl, amino, C₁-C₄alkylamino, C₁-C₄alkyloxy, halogen -CN, =O, and =S; and

each m is independently 0, 1, or 2; and

each n is independently 1, 2, or 3.

21. (Previously Presented) The method of claim 20 wherein said compound is administered to the mammal orally, parenterally, transdermally, or topically in a pharmaceutical composition.

22. (Original) The method of claim 20 wherein said compound is administered in an amount of from about 0.1 to about 100 mg/kg of body weight/day.

23. (Original) The method of claim 20 wherein said compound is administered in an amount of from about 1 to about 50 mg/kg of body weight/day.

24-25. (Canceled)

26. (Previously Presented) The method of claim 20 wherein the composition comprises an enantiomerically enriched form of a compound of formula I.

27. (Previously Presented) The method of claim 26, wherein the composition comprises at least 50% of one enantiomer of a compound of formula I relative to the other enantiomer of the compound.

28. (Previously Presented) The method of claim 27, wherein the composition comprises at least 80% of one enantiomer of a compound of formula I relative to the other enantiomer of the compound.

29. (Previously Presented) The method of claim 27, wherein the composition comprises at least 90% of one enantiomer of a compound of formula I relative to the other enantiomer of the compound.

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30. (Previously Presented) The method of claim 20 wherein the compound is selected from the group consisting of:

(2S,4R,4aR)-4-isopropyl-2-methyl-8-nitro-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

(2R,4S,4aS)-2,4-diethyl-8-nitro-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

(2R,4S,4aS)-2,4-dimethyl-8-nitro-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

(2R,4S,4aS)-8-acetyl-9,10-difluoro-2,4-dimethyl-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

(2R,4S,4aS)-10-fluoro-2,4-dimethyl-8-nitro-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

(2R,4S,4aS)-2,4-dimethyl-8-[5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl]-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

1,2,4,4a-Tetrahydro-2,4-dimethyl-8-nitrospiro[[1,4]oxazino[4,3-a]quinoline-5(6H),5'(2'H)-pyrimidine]-2',4',6'(1'H,3'H)-trione;

(2S,4R,4aR)-2-isopropyl-4-methyl-8-nitro-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

(2S,4R,4aR)-2-isopropyl-4-methyl-8-nitro-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

(2R,4S,4aS)-2,4-diisopropyl-8-nitro-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

(2R,4S,4aS)-2,4-dimethyl-8-(3-methyl-1,2,4-oxadiazol-5-yl)-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

(2S,4R,4aR)-8-acetyl-10-fluoro-2,4-dimethyl-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

8-bromo-2,4-dimethyl-10-nitro-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

(2R,4S,4aS)-2,4-dimethyl-8-(5-methyl-1,2,4-oxadiazol-3-yl)-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione;

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(2S,4S,4aS)-4-methyl-8-nitro-2-(trifluoromethyl)-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione; 4-azido-3-iodobenzyl (2R,4S,4aS)-2,4-dimethyl-2',4',6'-trioxo-1,1',2,3',4,4',4a,6'-octahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-8-carboxylate; and (2S,4S,4aS)-2,4-dimethyl-8-nitro-1,2,4,4a-tetrahydro-2'H,6H-spiro[1,4-oxazino[4,3-a]quinoline-5,5'-pyrimidine]-2',4',6'(1'H,3'H)-trione.

31. (Previously Presented) The method of claim 20 wherein: when each R₄ is H, that R₁ and R₂ are not simultaneously H, CN, or -C(O)-OCH₃ or that R₁ is not CN and R₂ is not -C(O)-OC₁₋₄alkyl.

32. (Previously Presented) The method of claim 20 wherein the compound of formula I is administered as a pharmaceutical composition, wherein the pharmaceutical composition additionally comprises a pharmaceutically acceptable carrier.

33. (Previously Presented) The method of claim 4 wherein:
R¹ is -C(O)R⁶;
R² is -C(O)R⁷;
each R⁴ is independently selected from H, F and heteroaryl optionally substituted by one or more R⁸;
each R⁵ is H;
R⁶ and R⁷ form -N(R¹⁷)-C(O)-N(R¹⁷)-;
each R¹⁷ is H;
R²⁰ is H; and
X is -C(H)(C₁₋₄ alkyl)-O-C(H)(C₁₋₄ alkyl)-.

34. (Previously Presented) The method of claim 33 wherein R⁸ is C₁₋₇ alkyl.

35. (Previously Presented) The method of claim 13 wherein:
R¹ is -C(O)R⁶;
R² is -C(O)R⁷;
each R³ is H;

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each R⁴ is independently selected from H, F and heteroaryl optionally substituted by one or more R⁸;

each R⁵ is H;

R⁶ and R⁷ form -N(R¹⁷)-C(O)-N(R¹⁷)-;

each R¹⁵ is C₁₋₇ alkyl;

each R¹⁷ is H; and

R²⁰ is H.

36. (Previously Presented) The method of claim 35 wherein R⁸ is C₁₋₇ alkyl.

37. (Previously Presented) The method of claim 13 wherein:

R¹ is -C(O)R⁶;

R² is -C(O)R⁷;

each R³ is H;

each R⁴ is independently selected from H, halo, and heteroaryl optionally substituted by one or more R⁸;

each R⁵ is H;

R⁶ and R⁷ form -N(R¹⁷)-C(O)-N(R¹⁷)-;

each R¹⁵ is C₁₋₇ alkyl;

each R¹⁷ is H; and

R²⁰ is H.